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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,264	04/02/2001	Steve J. Shattil		1606

7590
Steven J. Shattil
15 S. 33rd Street
Boulder, CO 80305

02/14/2006

EXAMINER

DEPPE, BETSY LEE

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,264

Applicant(s)

SHATTIL, STEVE J.

Examiner

Betsy L. Deppe

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) 14,15,18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed December 1, 2005 have been fully considered but they are not persuasive.
2. In response to the applicant's argument that the novelty of the invention is that the decoding signal is generated in the transmitter (see page 13), referring to the signal as a "decoding signal" is a matter of naming/labeling convention by the applicant. Regardless of whether this "reference signal" in the transmitter is called a "decoding/despreading signal" or a "coding/spreading signal," the signal is used to spread the information signal before transmission and also used by the receiver to accurately recover the information signal. Interpreting the "decoding signal" in the claims as a signal used by the receiver to decode the transmitted data, the rejection of claims 8-13 under 35 USC 112, 2nd paragraph is withdrawn.
3. In response to applicant's argument that Cafarella et al. (US Patent No. 5,809,060) does not show "a transmitter that generates a despreading or decoding signal (i.e. a reference code)" (see page 14), Figure 8 in Cafarella et al. shows a pseudonoise generator (70) that generates a reference code. Therefore, Cafarella et al. discloses the claimed invention and the rejection under 35 USC 102(b) is maintained.

4. In response to applicant's argument that Weerackody (US Patent No. 5,289,499) discloses a decoding signal generated by the receiver (see page 14), Figure 4 of Weerackody shows a receiver with a signal generator (12) that generates a despread signal (i.e. "signature sequence") which is used by the receiver to decode the received signal (see "63" in Figure 5 and column 9, lines 14-17). (See column 6, lines 48-61) Therefore, Weerackody discloses the claimed invention and the rejection under 35 USC 102(b) is maintained.

Drawings

5. The drawings were received on December 1, 2005. These drawings are acceptable.

Specification

6. The disclosure is objected to because of the following informalities: on page 19, line 16, "96" should be "96.1" in order to be consistent with the amendment to the specification filed December 1, 2005.

Appropriate correction is required.

Claim Objections

7. The claims are objected to because of the following informalities:

in claim 3, line 2, "a spread information signal" should be "the spread information signal" (see claim 1, line 3); and

in claim 9, line 2, "the wideband signal" should be "the **information-bearing** wideband signal" (see claim 8, line 3).

8. The applicant is reminded to cancel claims 14, 15, 18 and 19 as being directed to non-elected claims.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification, as originally filed, does not describe a plurality of identical wideband signals, as recited in claim 3. Although wideband source 92 and encoder 96 in Figures 10B-10C provides a plurality of wideband signals, these wideband signals are not identical since diversity encoder 96 adjusts a diversity characteristic of the wideband signal generated by wideband source 92. (See page 19, lines 9-11)

12. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claim 16 recite the limitations "the duplicate spread-spectrum signals" and "the decoding signal" in lines 13 and 14, respectively. There is insufficient antecedent basis for these limitations in the claim.

14. Claim 17 recites "at least one of the spread spectrums signal" on lines 10-11. There is insufficient antecedent basis for this limitation in the claim since claim 17 has not recited more than one "spread spectrum signal."

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims 1, 2, 6-9, 12, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cafarella et al. (US Patent No. 5,809,060 cited in the Office Action mailed June 8, 2005).

17. With regard to claims 1 and 2, Figure 8 of Cafarella et al. discloses the claimed invention including generating a spread information signal (e.g. the output of 66 or 72) and generating a despreading signal that is a noise signal (e.g. the output of 70). (See column 18, line 32-50) Furthermore, Figure 1 of Cafarella et al. shows duplicating the spread spectrum signal (26 and 28) thereby diversity-encoding at least one of the spread information signal and the despreading signal.

18. With regard to claim 8, Figure 8 of Cafarella et al. discloses the claimed invention including generating at least one information-bearing wideband signal (e.g. the output of 72) and generating at least one decoding signal (e.g. the output of 70). Furthermore, Figure 1 shows diversity encoding the information-bearing wideband signal wherein the step of diversity-encoding is performed by a communication channel.

19. With regard to claim 9, Figure 8 of Cafarella et al. discloses the claimed invention including a noise signal in the wideband signal. Generator 70 generates a noise signal which is combined with data outputted by data modulator 66 to produce the information-bearing wideband signal.

20. With regard to claims 6 and 12, Figure 8 of Cafarella et al. discloses the claimed invention including modulating the spread information signal (e.g. the output of 66) and the despreading signal (e.g. output of 70) onto a carrier signal since it is inherent/implicit that a signal is modulated onto a carrier signal for transmission in a wireless system.

21. With regard to claims 7 and 13, Cafarella et al. discloses the claimed invention including coupling the spread information signal and the despreading signal into a communication channel. (See Figures 1, 3 and 8)

22. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Whinnett et al. (US Patent No. 6,317,411 B1). Figure 9 of Whinnett et al. discloses the claimed invention including generating a spread information signal (e.g. output of 92), generating a despreading signal (e.g. spreading code w_1w_1), and diversity encoding at least one of the spread information signal and the despreading signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (e.g. 140, 100, 102, 104 and 106) wherein the spread information signal includes modulating at least one of a plurality of identical wideband signals with an information signal.

23. Claims 1, 5, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Weerackody (US Patent No. 5,289,499 cited in the Office Action mailed June 8, 2005).

24. With regard to claims 1 and 5, Figure 4 of Weerackody discloses the claimed invention including generating a spread information signal (e.g. $b(n)$ or 10), generating a despreading signal (12), and diversity encoding diversity-encoding at least one of the spread information signal and the despreading signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1). (See column 6, line 48 - column 7, line 1)

25. With regard to claims 8 and 11, Figure 4 of Weerackody discloses the claimed invention including generating at least one information-bearing wideband signal (e.g.

b(n) or 10), generating at least one decoding signal (12) and diversity encoding the information-bearing wideband signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1).

26. Claims 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayashi (US Patent No. 6,252,864 B1). Figure 3 of Hayashi discloses the claimed invention including a wideband signal generator configured to generate a plurality of wideband signals since it is implicit/inherent that there is a means for generating the spreading codes 11, 12, 21 and 22. Furthermore, Figure 3 of Hayashi discloses a modulator (e.g. 201) coupled to the wideband signal generator for generating a spread spectrum signal and a diversity processor (e.g. 203 and 204) configured for adjusting at least one diversity parameter (i.e. antenna diversity). (See column 4, lines 17-62)

Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'B. Deppe', is positioned above the printed name.

Betsy L. Deppe
Primary Examiner
Art Unit 2637